



# **Network Management and Device Managers Configuration**

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# Preface

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Welcome to Avaya Network Management. This chapter provides an introduction to the structure and assumptions of this guide. It includes the following sections:

- [The Purpose of This Guide](#) - A description of the goals of this guide.
- [Who Should Use This Guide](#) - The intended audience of this guide.
- [Organization of This Guide](#)- A brief description of the subjects contained in the various sections of this guide.

## The Purpose of This Guide

The purpose of the Avaya Network Management Application and Device Manager Installation and Configuration Guide is to provide a broad view of Avaya Network Management applications, act as a guide for getting started and help you maintain your network using Avaya Network Management.

## Who Should Use This Guide

This guide is intended for network managers familiar with network management and its fundamental concepts.

# Organization of This Guide

This guide is structured to reflect the following conceptual divisions:

- **Preface** - This section describes the guide's purpose, intended audience and organization.
- [\*\*Avaya Network Management Overview\*\*](#) - An overall description of the Avaya Integrated Management suite and its various parts.
- [\*\*Before You Install\*\*](#) - Information on preparing to install Avaya Network Management applications.
- [\*\*After You Install\*\*](#) - Information on configuring Avaya Network Management applications after installation.
- [\*\*Running Avaya Network Management in Multiple Modes\*\*](#) - Information on running Avaya Network Management in both Standalone and HP-OV NNM Modes on the same computer.
- [\*\*Getting Started with Avaya Network Management\*\*](#) - Information on the initial tasks you should perform when using Avaya Network Management.

# 1 Avaya Network Management Overview

---

This chapter provides an overall description of Avaya Network Management applications and Device Managers that are included in Avaya Integrated Management suite. It includes the following topics:

- [Network Management Applications and Device Managers Overview](#) - An overall description of Avaya Network Management, its various parts, features, and benefits.
- [Device Management Tools](#) - A general description of the “device manager” concept, and a brief description of device manager features.
- [Network Management Tools](#) - An overview and description of the Avaya Network Management campus-wide management tools.

## Network Management Applications and Device Managers Overview

Avaya Network Management Applications and Device Managers are part of the Avaya Integrated Management suite, which provides you with a complete set of tools and an applications platform. All of the tools in Avaya Integrated Management are accessible through a common Web-based user interface to facilitate system and network management.

Avaya Network Management Applications and Device Managers are SNMP based network management applications. There are different types of applications to fill different network management needs. Avaya Network Management consists of the following types of applications:

- **Device Managers** - Includes device managers for Avaya’s LAN, backbone switches, and wireless Access Points. These applications allow configuration, management, and fault diagnosis for the specific device. For more information about device managers, refer to [“Device Management Tools” on page 4](#).

- **Network Management Tools** - Includes applications that help you manage your network as a whole. These applications allow you to monitor switching, configure VLANs, set up rules to enhance quality of service, and perform other important network tasks. For more information about network-wide applications, refer to [“Network Management Tools” on page 7](#).
- **Network Management Framework** - Avaya Network Management Applications and Device Managers run within the “framework” of a network management application. The framework management application provides easy access to Device Managers and Network Management Applications. It also provides a view of your entire network.
  - a. You can use HP OpenView NNM as the framework. This is called running Avaya Network Management in HP-OV NNM Mode. In this mode, the framework also provides an overall view of the multi-vendor network to the network administrator and defines the scope of the network to Avaya Network Management applications.
  - b. Alternatively, Avaya Network Management can be run in Standalone Mode. Avaya Network Management Console provides an overall view of the network of Avaya’s LAN and backbone switches, Avaya Wireless Access Points, Avaya Media Servers, Avaya IP phones, and other devices in the network. Avaya Network Management applications can be launched from Avaya Network Management Console. Avaya Network Management Console also provides a discovery service, trap logs, and other important information to the Network Management applications.
  - c. Avaya Network Management can be installed in both HP-OV NNM Mode and Standalone Mode on a single computer. However, only one mode can be active at any given time. For more information on installing and running multiple modes of Avaya Network Management, refer to [Chapter 5, Running Avaya Network Management in Multiple Modes](#).



## Network Management Features

Avaya Network Management's main features and benefits include:

- Performance monitoring for switched environment (SMON)
- Multilayer switch monitoring
- VLAN management
- Comprehensive and easy-to-use device configuration
- Backup and easy distribution of device configurations
- Easy configuration of network traffic management policies
- Easy updating of device software
- Easy mapping of hosts to switch ports
- Fault diagnosis and management
- Remote access via the Internet
- Multiple user access

# Device Management Tools

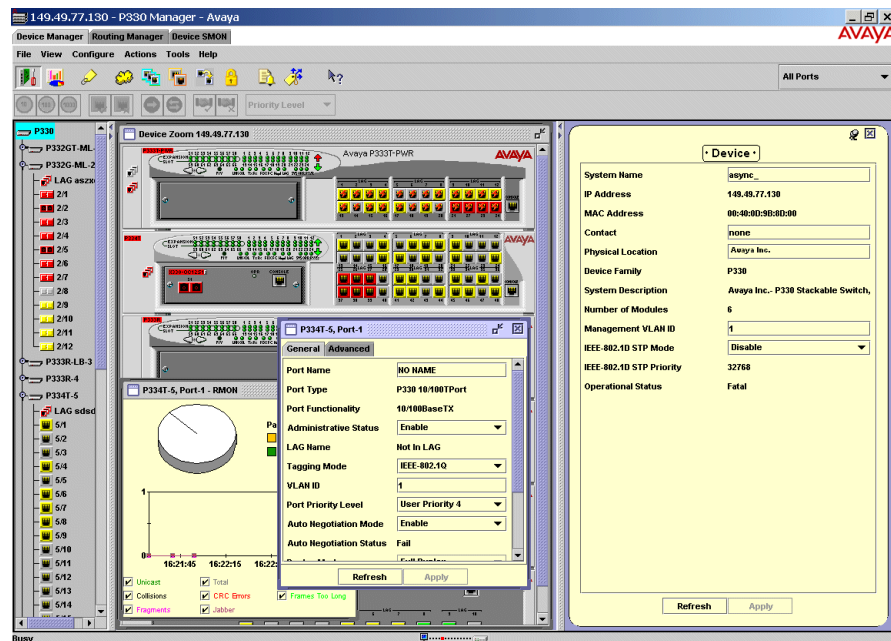
This section provides a general description of the “device manager” concept, and a brief description of the device managers. This section discusses the following topics:

- [Overview](#)
- [Avaya Device Managers](#)

## Overview

Avaya Network Management includes applications tailored to manage and monitor each family of Avaya’s LAN and backbone switches. The device managers allow you to set up, configure, monitor, manage, and diagnose all Avaya network devices. The device managers provide a real-time view of each device, called the “chassis view”. The view uses color coding to indicate individual port, module, and LAG statuses. You can use the device manager to configure port, LAG, and VLAN settings, port security, redundancy modes, and all other device parameters. An example of an Avaya device manager is shown in the figure below.

**Figure 1-1. Avaya Device Manager**



In addition, each device can be monitored using Avaya's Device SMON applications. Device SMON provides switch monitoring capabilities, as well as graphs and pie charts displaying traffic types on ports, VLANs, and switches.

## **Avaya Device Managers**

This section provides a brief description of the features that the Avaya device managers allow you to configure. Not all features are applicable for all devices. This section also provides a list of the Avaya devices that can be managed with Avaya device managers. For more details about a specific application, refer to the device manager's User Guide.

Avaya device managers provide the following features:

- Bridge and port level Spanning Tree configuration
- Connected stations monitoring
- Device security configuration
- Event Log configuration
- Link Aggregation Group (LAG) configuration
- Load sharing configuration
- OSPF routing configuration
- Packet filtering configuration
- Performance monitoring
- Port and error counters
- Port mirroring configuration
- Port redundancy configuration
- Port RMON statistics
- Port security configuration
- Power over Ethernet (PoE) configuration
- Routing Path Protocol configuration
- Routing redundancy configuration
- Static routes table configuration
- Trap managers configuration

- VLAN configuration
- WAN connection configuration
- Wireless Access Point configuration

\* **Note:** For information on the features supported by a specific device manager, refer to the device's User Guide.

In addition, Device SMON provides switch level (Layer 2) monitoring of the information passing through the devices in your network.

AnyLayer SMON provides information about higher level (Layer 3 and above) packets passing through the routers in your network. These include the following statistics:

- DSCP statistics
- Ethernet segment statistics
- Extended port statistics
- Host matrix
- Host statistics
- Network layer host Statistics
- Network layer subnet Statistics
- Port history statistics
- Port statistics
- Protocol distribution statistics
- Router statistics
- Switch statistics
- VLAN statistics
- Voice port statistics

The Avaya Device Managers allow you to manage the following devices:

- Avaya C460
- Avaya G350
- Avaya P130
- Avaya P330/G700
- Avaya P580/P882
- Avaya Access Points 3, 4, 5, 6

## Network Management Tools

This section provides a general description of the Avaya Network Management tools, and a brief description of each of the network applications. This section discusses the following topics:

- [Overview](#)
- [Network-wide Applications](#)

### Overview

The Avaya Integrated Management suite includes network-wide applications that allow you to manage the Avaya LAN and backbone switches, Avaya Media Gateways, and Wireless Access Points in your network as a whole. These applications allow you to configure VLANs, monitor switching, and perform other important network tasks. For example, Avaya Network Management includes Avaya SMON Manager for advanced switch monitoring (Avaya Integrated Management includes a 90 day trial version of SMON). Avaya SMON Manager monitors the Ethernet switching fabric and gives you a complete top-down view of all switched traffic across your network.

Other network-wide applications include Avaya Network Configuration Manager for multiple device and port configuration, Avaya QoS Manager for configuring policy-based management, Avaya VLAN Manager for configuring and monitoring VLANs, Avaya Address Manager for mapping hosts to switch ports, and Avaya Software Update Manager for automatically updating your network devices with the most up to date software.

## Network-wide Applications

This section provides a brief description of each of the Avaya Network Management network-wide applications. For more details about a specific application, refer to the application's User Guide.

- **Network Management Console** - Avaya Network Management Console is an application that allows you to view the devices in your network. Avaya Network Management Console also provides a platform from which you can launch applications to manage network devices and monitor the traffic on your network. In addition, Network Management Console provides a Discovery service that searches your network for devices.

Network Management Console uses a client/server architecture, allowing multiple users to access the Avaya Network Management Console simultaneously. Web based technology provides a method for accessing and managing your network from any computer with Internet access.

- **Avaya SMON Manager** - A collection of applications that work together with the other Avaya Network Management components to provide a full spectrum of in-depth monitoring of switch traffic and network performance. Avaya SMON Manager consists of a software console application on a workstation and remote monitoring probes in network devices that support SMON.

The Avaya SMON Manager console constantly communicates with the SMON devices on your network. The console uses SNMP to gather information from the devices. Avaya SMON Manager provides a suite of powerful graphic display tools to view this information.

Avaya SMON Manager provides you with detailed analysis of the traffic flow on your switched network, from a global view down to a specific host, and from total MAC layer traffic down to a specific application protocol - all in real-time.

Using SMON monitoring, you can get:

- A global view of traffic for all switches on the network.
- An overall view of traffic passing through a specific switch.
- Detailed data about the hosts transmitting packets or cells through a switch.
- An analysis of traffic passing through each port connected to a switch.

- **Avaya Network Configuration Manager** - An application that allows you to save device and module configurations, and apply them to devices and modules across the network. Device and module configurations can be stored and applied to selected devices and modules. Avaya Network Configuration Manager makes it easy to create an accurate and consistent network configuration.
- **Avaya QoS Manager** - An application that allows you to configure policy-based management of the traffic on the network. Policy-based management is one of the newest and fastest growing trends in network management. Policy-based management allows network managers to implement forwarding and routing information bandwidth prioritization based on policies and rules, and focus on QoS. Instead of routing packets only by their destination address, Avaya QoS Manager allows you to assign a priority or block packets based on the source and destination addresses, and protocols. This can help you provide services that rely on consistent levels of forwarding service.
- **Avaya Software Update Manager** - An application that downloads software to managed Avaya devices. Avaya Software Update Manager can also check the software versions currently in use against the latest versions available from Avaya, and recommend updates when a newer version is available. You can use Avaya Software Update Manager to retrieve a new release from Avaya's Web site, store it on your hard disk, and subsequently download it to the appropriate device.
- **Avaya Address Manager** - Avaya Address Manager is an application that allows you to see which network devices are directly attached to the ports on your network devices.

Using advanced network searches, Avaya Address Manager helps you build, maintain, and display a centralized list of hosts discovered in the network with their MAC and IP addresses, and device port connectivity. In addition, Avaya Address Manager enables you to print or export the list. You can also import connections into Avaya Address Manager.

Avaya Address Manager helps you rapidly locate a host or switch port on the network, and find duplicate IP addresses in the network.

# 2 Before You Install

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This chapter provides a description of the procedures you need to follow before installing Avaya Network Management Applications and Device Managers:

- [Running in NNM Mode \(HP-OV\)](#) - Software requirements for running Avaya Network Management applications and Device Managers with HP-OpenView.
- [Before Running the Installation](#) - Information on necessary steps to be taken before installing Avaya Network Management applications.
- [Upgrading from Previous Versions](#) - Information on upgrading to Avaya Integrated Management from older versions of Avaya network management software.

For further information on system requirements and installation procedures for Avaya Integrated Management Suite applications, refer to the *Avaya Integrated Management 2.0 Installation Guide*.

## Running in NNM Mode (HP-OV)

This section provides the requirements to prepare Avaya Network Management to work with HP OpenView/NNM.

1. Follow the requirements for Avaya Integrated Management. For the specific requirements, refer to the *Avaya Integrated Management 2.0 Installation Guide*.
2. Update HP OpenView/NNM with the latest patches from the HP website.



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# Before Running the Installation

This section provides the instructions to prepare for Avaya Network Management installation.

## Stopping the Server

Before installing the Network Management and Device Manager applications, you must stop the Avaya Network Management Server and all running HP-OV NNM background processes. The process to be stopped depends on the mode in which Avaya Network Management is running. The following sections provide instructions on stopping Avaya Network Management Server and HP-OV NNM background processes.

### Stopping Avaya Network Management Console

To stop the Avaya Network Management Server:

Select **Start > Programs > Avaya > Network Management Server > Stop Avaya Network Management Server**.

Or

1. Open a command line window.
2. Enter **cvserver stop**. The Avaya Network Management Server stops.

### Stopping HP-OV NNM Background Processes

To stop HP-OV background processes:

Select **Start > Programs > HP OpenView > Network Node Manager Admin > NNM Services - Stop**.

Or

1. Open a command line window.
2. Enter **ovstop**. HP-OV NNM background processes stop.

## Upgrading from Previous Versions

This section provides information on upgrading from previous versions of Avaya network management software.

### Upgrading from MSNM 5.0

You can upgrade to Avaya Integrated Management from MSNM 5.0 directly. All customization files, device maps, and data files are preserved. For instructions on upgrading from MSNM 5.0, refer to the *Avaya Integrated Management 2.0 Installation Guide*.

### Upgrading from Older Versions

If you have an older version of Avaya network management software (CajunView or MSNM version prior to 5.0), you must first upgrade to MSNM 5.0 and then upgrade to Avaya Integrated Management 2.0. For instructions on upgrading to MSNM 5.0, refer to the *Avaya MultiService Network Management for Windows NT 5.0 Installation Guide*.

**\* Note:** If you have legacy devices in your network that are not supported by Avaya Integrated Management 2.0, their Device Managers, device maps, customization files and data files will not be preserved after upgrading to Avaya Integrated Management 2.0. Avaya recommends that if you need to support legacy devices, keep the older version of the network management software on a separate computer to manage these devices.

# 3 Installation Instructions

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This chapter provides information on the procedures you need to follow to installing Avaya Network Management Applications and Device Managers:

## Before the Installation

To ensure proper installation of Avaya Network Management Applications and Device Managers, follow the procedures discussed in [Chapter 2. Before You Install](#).

## Installing Avaya Network Management Applications and Device Managers

For information on installing Network Management Applications and Device Managers included in the Avaya Integrated Management suite, refer to the *Avaya Integrated Management 2.0 Installation Guide*.

## After the Installation

After installation of Avaya Network Management Applications and Device Managers, follow the procedures discussed in [Chapter 4. After You Install](#).

# 4 After You Install

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This chapter provides information on the tasks you should perform after installing Avaya Network Management:

- [SNMP Options](#) - Information on configuring SNMP for Avaya Network Management.
- [Configuring Login Security](#) - Information on configuring secure login mode for Avaya Network Management.
- [Downloading Embedded Software](#) - Information on maintaining the most current release of embedded software for Avaya network devices.
- [Entering the SMON License](#) - Information on entering SMON licenses for Avaya Network Management and Device Managers.
- [Configuring Access Security \(HP-OV NNM Mode Only\)](#) - Information on configuring access security for Avaya Network Management in HP-OV NNM Mode.
- [Configuring Proxy Settings \(Optional\)](#) - Information on configuring Avaya Network Management to work through a proxy server.
- [Configuring the Web Server \(Optional\)](#) - Information on configuring a custom web server to work with Avaya Network Management.
- [Configuring FTP \(Optional\)](#) - Information on configuring an FTP server to work with Avaya Network Management.
- [Loading Additional MIBs \(Optional\)](#) - Information on loading additional SNMP MIBs into Avaya Network Management.
- [Configuring Default Settings](#) - Information on configuring default settings in HP-OV NNM with recommended values for Avaya Network Management.

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# SNMP Options

This section provides information on configuring SNMP options for Avaya Network Management.

You should set up read-write communities for all devices and read-only communities for key devices. The default SNMP version is SNMPv1. If you are using SNMPv3, set up user names and passwords. For more information on configuring SNMP, refer to *Avaya Network Management Console in Standalone Mode User Guide* and *Using Network Node Manager - HP OpenView*.

The following topics are covered in this section:

- [Configuring SNMPv1 Options for HP-OV NNM](#)
- [Configuring SNMPv3 Options](#)
- [Creating an Administrator Community Name](#)
- [Configuring Access Security \(HP-OV NNM Mode Only\)](#)

## Configuring SNMPv1 Options for HP-OV NNM

Once you set the SNMP community string on a device, it can be used to manage a device using Avaya Network Management. To configure SNMPv1 options:

1. Start HP-OV NNM by typing **ovw**.
2. In HP-OV NNM, select **Options > SNMP Configuration**. The SNMP Configuration dialog box opens.
3. In the Specific Node tab, click **Add**. The SNMP Parameters dialog box opens.
4. In the Target field, enter the IP address for the switch that sends trap information.
5. In the Community field, enter **public** for general read access for another applicable value to limit read access.
6. In the Set Community field, enter the community string assigned to the computer designated as the trap recipient. This provides read/write access. This computer is set up as a trap recipient in the Avaya Switch Web Agent.
7. Click **OK** to save the changes and close the SNMP Parameters dialog box.

8. Click **Apply** to save the changes and continue adding target switches.

**Or**

Click **OK** to save changes and close the SNMP Configuration dialog box.

## Configuring SNMPv3 Options

To use SNMPv3 with Avaya Network Management, you must enable Login Mode and configure user names and password.

For more information on configuring Login Mode and user names and passwords, refer to the *Avaya Network Management User Administration User Guide*.

To enable HP-OV NNM for use with SNMPv3, you must first install the *HP-OV NNM SNMP Security Pack*. Contact your HP dealer for details. For more information on configuring SNMPv3 when using Avaya Network Management in HP-OV NNM mode, refer to the *HP-OV NNM Administrator's Guide* and the *HP-OV NNM Security Pack Reference Guide*.

## Creating an Administrator Community Name

Some features of the Avaya P580/P882 Manager require you to connect to the device using an SNMP community name with Administrator privileges. It is important that you create a community name with Administrator privileges on each Avaya P580/P882 device in your network.

You can create a community name with Administrator privileges using the CLI or the Embedded Web Manager. For more information, refer to the Avaya P580/P882 Operations Guide.

## Configuring Login Security

Avaya Network Management offers secure “login mode” which allows definitions of user names and passwords. In this mode, Network Management Application and Device Manager users are prompted for a login name and password. For more information, refer to *Avaya Network Management User Administration User Guide*.

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## Downloading Embedded Software

Embedded software for Avaya's devices can be found on the Avaya support website. To manage your devices properly, obtain the latest software for your network agents. After you obtain the embedded software, download the software to the agents location on your network. Updating your embedded software provides the following benefits:

- Most recent network management features.
- Support for new modules and devices.

Avaya Software Update Manager is an application designed to get new releases of embedded software and download them to the devices on your network. For more information, refer to the *Avaya Software Update Manager User Guide*.

## Entering the SMON License

The Avaya Network Management with SMON Manager package contains a license enabling you to use Avaya SMON Manager on a permanent basis. The base Avaya Network Management package does not include a permanent SMON license. Instead, a 90-day trial license of SMON is included.

In addition, an SMON Device License is required to use SMON on most Avaya network devices.

The following topics are covered in this section:

- [Entering the Avaya SMON Manager License](#)
- [Entering SMON Device Licenses](#)

## Entering the Avaya SMON Manager License

When launching Avaya SMON Manager before creating a valid license key, a dialog box for entering the license key is displayed. If you purchased the Avaya Network Management with SMON Manager package, enter the license key provided. This allows unlimited use of Avaya SMON Manager. If you purchased the base Avaya Network Management package, press **ENTER**. This allows use of Avaya SMON Manager for 90 days.

## Entering SMON Device Licenses

SMON for Avaya P130, P330, and C460 devices do not require a device SMON license for the first 90 days of use.

After 90 days from initial use, Device SMON is disabled unless you enter a valid permanent device SMON license. For information on entering device SMON licenses, refer to your device's SMON Installation Guide.

\* **Note:** You can run device SMON on the Avaya P580/P882 without a device SMON license.

For information on purchasing device SMON licenses for your Avaya network devices, contact your Avaya representative.

## Configuring Access Security (HP-OV NNM Mode Only)

To prevent unauthorized users from accessing your network, It is recommended that you configure access security in HP-OV NNM. The following procedures provide instructions for configuring access security for Avaya Network Management using the features in HP-OV NNM.

1. Open the *NNM\_Directory*\www\conf\session.conf file in a text editor, where *NNM\_Directory* is the directory in which HP-OV NNM is installed.
2. Change the User Login parameter to on.
3. Save the file.
4. Close the text editor.
5. Open a command line (DOS) window.
6. Enter **Ovhtpasswd** *new\_user*, where *new\_user* is the user name for accessing Avaya Network Management.
7. Open the *NNM\_Directory*\www\etc\htpasswd file in a text editor, where *NNM\_Directory* is the directory in which HP-OV NNM is installed.
8. Ensure that the user added in step 6 appears.
9. Close the file. Access security is configured for Avaya Network Management in HP-OV NNM Mode.



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## Configuring Proxy Settings (Optional)

If your network has a non-permissive firewall, you must configure Avaya Network Management to work with your proxy server. This will enable Avaya Software Update Manager's Analyze and Retrieve from the Web functions.

To configure Avaya Network Management to work with your proxy server:

1. Type **ovstop** to stop HP-OV NNM's background processes, if they are running.
2. Open the *Avaya\_Net\_Mgt/cvs/private/gen/cv.prop* file in a text editor, where *Avaya\_Net\_Mgt* is the directory in which Avaya Network Management is installed.
3. Edit the line starting **proxy.host=** to **proxy.host=Proxy\_name**, where *Proxy\_name* is the IP address or DNS name of your proxy server. For example, **proxy.host=avaya.proxy.com**.
4. Edit the line starting **proxy.port=** to **proxy.port=Proxy\_port**, where *Proxy\_port* is the port used by your proxy server. For example, **proxy.port=80**.
5. Save the file, Avaya Network Management is configured to work with your proxy server.

## Configuring the Web Server (Optional)

The Avaya Integrated Management application installs the Apache 2.0 HTTP server and configures it for use with Avaya Integrated Management Applications. For installations using a custom HTTP server, insert the following definitions into the HTTP server's configuration file.

The following is an example of a configuration script for an Apache web server running with Avaya Network Management in HP-OV NNM Mode:

```
PassEnv AIM_FPM
PassEnv AIM_MSA
PassEnv CV_PATH

#Aliases:

Alias /launch_nnm      "C:/Program Files/Avaya/Network
Management/Ntov/Launch"

<Directory "C:/Program Files/Avaya/Network
Management/Ntov/Launch">

AddHandler cgi-script .covpl
Options +ExecCGI
AllowOverride None
Order allow,deny
Allow from all

</Directory>


Alias /nm_nnm      "C:/Program Files/Avaya/Network Management/Ntov"
Alias /nm_nnm      "C:/Program Files/Avaya/Network Management/Ntov"

<Directory "C:/Program Files/Avaya/Network Management/Ntov">

AddHandler cgi-script .covpl
Options +ExecCGI
AllowOverride None
Order allow,deny
Allow from all

</Directory>

#Access restriction:

<Directory "C:/Program Files/Avaya/Network
Management/Ntov/Gen/resources/private">

Deny from all

</Directory>
```

The following is an example of a configuration script for an Apache web server running with Avaya Network Management in Standalone Mode:

```
PassEnv AIM_FPM
PassEnv AIM_MSA
PassEnv CV_PATH

#Aliases:

Alias /launch "C:/Program Files/Avaya/Network
Management/CVS/Launch"

<Directory "C:/Program Files/Avaya/Network
Management/CVS/Launch">

AddHandler cgi-script .cvpl
Options +ExecCGI
AllowOverride None
Order allow,deny
Allow from all

</Directory>


Alias /nm "C:/Program Files/Avaya/Network Management/CVS
Alias /nm "C:/Program Files/Avaya/Network Management/CVS
<Directory "C:/Program Files/Avaya/Network Management/CVS">

AddHandler cgi-script .cvpl
Options +ExecCGI
AllowOverride None
Order allow,deny
Allow from all

</Directory>

#Access restriction:

<Directory "C:/Program Files/Avaya/Network
Management/CVS/Gen/resources/private">

Deny from all

</Directory>
```

## Configuring FTP (Optional)

FTP is supported by Avaya Software Update Manager and Avaya Network Configuration Manager for certain network switches and gateways.

To configure FTP service on your Windows server:

1. Create a user on the Windows server.
2. Select **Start > Control Panel > Administrative Tools > Internet Services Manager**.
3. Select **Default FTP Site**.
4. Select the **Home Directory** tab.
5. Under FTP Site Directory, select **Read** and **Write**.
6. Click **Apply** to save changes.
7. Close the Control Panel.
8. Open Avaya Software Update Manager.
9. Select **File > Options**. The Options dialog box opens.
10. In the **FTP Global Use** field, select **Enabled**.
11. In the **FTP User Name and Password** field, enter the user name and password you created.
12. In the **FTP Server Page** field, enter the path of the FTP Site Directory on your server.
13. Click **Apply** to save the changes. The FTP server is configured to work with Software Update Manager.

\* **Note:** The procedure is identical for Network Configuration Manager.

## Loading Additional MIBs (Optional)

Some Avaya MIBs are loaded automatically when you install Avaya Network Management. If you want to install additional MIBs:

1. In HP-OV NNM, select **Options > Load/Unload MIBs:SNMP**. The Load/Unload MIBs:SNMP dialog box appears.

2. Click **Load**. A directory browser appears.
3. Navigate to the *Install\_Directory*/**snmpmibs** directory, where *Install\_Directory* is the directory in which you installed Avaya Network Management.
4. Select the MIBs you wish to add to the MIBs database.
5. Click **Open**. The new MIBs are loaded. For more information, refer to *Managing Your Network with HP OpenView Network Node Manager 6.2*.

## Configuring Default Settings

The following section explains how to configure specific default settings with recommended values.

### Cold Start Traps

The default setting in HP-OV NNM is not to record cold start traps in the Event Log. To record cold start traps in the Event Log:

1. In HP-OV NNM, select **Options > Event Configuration**. The Event Configuration dialog box opens.
2. In the Enterprises window, select **snmpTraps**.
3. In the Events for Enterprise snmpTraps (.1.3.6.1.6.3.1.1.5) window, double-click **SNMP\_Cold\_Start**. The Modify Events dialog box opens.
4. Click the **Event Messages** tab.
5. Click **Log and display in category**.
6. Select a category in which cold start traps will be displayed.
7. Click **OK**. Cold start traps appear in the selected category.

# 5 Running Avaya Network Management in Multiple Modes

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This chapter provides information about installing and running Avaya Network Management applications and Device Managers both in Standalone Mode and in HP-OV NNM mode on the same computer.

To use Avaya Network Management Console both in Standalone Mode and in HP NNM mode on the same computer, you must install Avaya Network Management Console twice, once in Standalone Mode and once in HP-OV NNM Mode.

This chapter contains the following sections:

- [Installing Avaya Network Management in Multiple Modes](#) - Information on installing Avaya Network Management Server in both Standalone and HP-OV NNM Modes on the same computer.
- [Configuring Avaya Network Management Modes](#) - Information on selecting the mode in which Avaya Network Management Server will run on startup.

## Installing Avaya Network Management in Multiple Modes

The following sections provide instructions for installing Avaya Network Management both in Standalone Mode and in HP-OV NNM Mode.

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## Installing Avaya Network Management in Standalone Mode

If HP-OV NNM is installed on your computer and you wish to install Avaya Network Management in Standalone Mode, refer to the *Avaya Integrated Management 2.0 Installation Guide*.

## Installing Avaya Network Management in HP-OV NNM Mode

If Avaya Network Management in Standalone Mode is installed on your computer, the following instructions explain how to install HP-OV NNM and Avaya Network Management Server in HP-OV NNM Mode.

1. If HP-OV NNM is not installed on your computer, install HP-OV NNM. For instructions on installing HP-OV NNM, refer to *HP OpenView NNM For Windows NT/2000/XP Installation Guide*.
2. Stop HP-OV NNM background processes. For instructions on stopping HP-OV NNM background processes, refer to [“Stopping HP-OV NNM Background Processes” on page 11](#).
3. Install Avaya Network Management Server in HP-OV NNM Mode. For instructions on installing Avaya Network Management Server, refer to the *Avaya Integrated Management 2.0 Installation Guide*.

## Configuring Avaya Network Management Modes

If you installed Avaya Network Management Server in both Standalone and HP-OV NNM Modes, you must select the mode that runs when your computer starts.

**\* Note:** If you do not configure your computer to start with one of the modes, error messages will appear on startup.



## Configuring Avaya Network Management to Run in Standalone Mode

To run Avaya Network Management Server in Standalone Mode when your computer starts:

1. Configure your computer to run Avaya Network Management Server on startup:
  - a. Open the Services applet in Windows Control Panel.
  - b. Select **Avaya Network Management Server**.
  - c. Click **Startup**.
  - d. Select **Automatic**.
  - e. Click **OK**.
2. Configure HP-OV NNM background services not to start automatically:
  - a. Select SNMP Trap Service.
  - b. Click Startup.
  - c. Select Manual.
  - d. Click OK.
  - e. Select HP OpenView Process Manager.
  - f. Click Startup.
  - g. Select Manual.
  - h. Click OK.
  - i. Close the Services applet.
3. Restart your computer. Your computer is now configured to run Avaya Network Management Server in Standalone mode on startup.

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## Configuring Avaya Network Management to Run in HP-OV NNM Mode

To run Avaya Network Management Server in HP-OV NNM Mode when your computer starts:

- 1.** Configure Avaya Network Management Server not to start automatically:
  - a.** Open the Services applet in Windows Control Panel.
  - b.** Select Avaya Network Management Server.
  - c.** Click Startup.
  - d.** Select Manual.
  - e.** Click OK.
- 2.** Configure HP-OV NNM background processes to run when your computer starts:
  - a.** Select SNMP Trap Service.
  - b.** Click Startup.
  - c.** Select Automatic.
  - d.** Click OK.
  - e.** Select HP OpenView Process Manager.
  - f.** Click Startup.
  - g.** Select Automatic.
  - h.** Click OK.
  - i.** Close the Services applet.
- 3.** Restart your computer. Your computer is configured to run Avaya Network Management Server in HP-OV NNM Mode on startup.

# 6 Getting Started with Avaya Network Management

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This chapter provides instructions on how to get started with Avaya Network Management. It includes the following sections:

- [Getting Started with Avaya Network Management in Standalone Mode](#) - Instructions on what to do after installing Avaya Network Management in Standalone Mode.
  - [Getting Started with Avaya Network Management in HP-OV NNM Mode](#) - Instructions on what to do after installing Avaya Network Management in HP-OV NNM Mode.
- \* **Note:** The tasks listed in this chapter should only be performed after completing the post-installation tasks documented in [Chapter 4, After You Install](#).
- \* **Note:** Avaya Network Management can be installed in Standalone Mode and HP-OV NNM Mode on the same computer. For information about running Avaya Network Management in Standalone Mode and HP-OV NNM Mode on the same computer, refer to [Chapter 5, Running Avaya Network Management in Multiple Modes](#).

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# Getting Started with Avaya Network Management in Standalone Mode

After installing Avaya Network Management to run in Standalone Mode, the following steps will help you start managing your network using Avaya Network Management:

1. Ensure that Avaya Network Management Server is running. Avaya Network Management Server is a Windows service and should start automatically when you boot the server station. To check the status of Avaya Network Management Server, select **Start > Programs > Avaya > Network Management Server > Avaya Network Management Server Status**. A dialog box opens with the current Network Management Server status. If Network Management Server is not running, start Network Management Server. To start Network Management Server, select **Start > Programs > Avaya > Network Management Server > Start Avaya Network Management Server**.
2. Start Avaya Network Management Console. To start Avaya Network Management Console, double-click the Avaya Network Management Console icon on the Windows Desktop.
3. Discover the subnets and objects in your network and save the results in the current Network Map. For instructions on discovering your network, refer to “Discovering Your Network” in the *Avaya Network Management Console in Standalone Mode User Guide*.
4. Add Avaya Network Management Server to the device’s list of Trap Managers. For more information, refer to each device manager’s User Guide or on-line help.
5. Configure the devices in your network. Device configuration can be performed using the device managers and Avaya Network Configuration Manager. For instructions on configuring devices, refer to each device manager’s User Guide, *Avaya Network Configuration Manager User Guide*, or the on-line help.
6. Set up custom views of your network. For instructions on creating custom views of your network, refer to “Custom Views” in the *Avaya Network Management Console in Standalone Mode User Guide*.

# Getting Started with Avaya Network Management in HP-OV NNM Mode

After installing Avaya Network Management to run in HP-OV NNM Mode, the following steps will help you start managing your network using Avaya Network Management:

1. Ensure that HP NNM's background processes are running. HP NNM background processes are a Windows service and should start automatically when you boot the server station. If HP NNM's background processes are not running, start them. To start HP NNM's background processes, select **Start > Programs > HP OpenView > Network Node Manager Admin > NNM Services - Start**.
2. Start HP-OV NNM. To start HP-OV NNM, double-click the Network Node Manager icon on the Windows Desktop.
3. Discover the subnets and nodes in your network. For instructions on discovering your network, refer to *HP Network Node Manager for Windows NT User Guide*.
4. Add the HP-OV NNM server to the device's list of Trap Managers. For more information, refer to each device manager's User Guide or on-line help.
5. Configure the devices in your network. Device configuration can be performed using the device managers and Avaya Network Configuration Manager. For instructions on configuring devices, refer to each device manager's User Guide, *Avaya Network Configuration Manager User Guide*, or the on-line help.